

## ABSTRACT

A method for compressing 4D image data to accelerate the visualization of the data comprising the sequential steps of  
5 compressing a first 3D image using run length encoding (RLE),  
detecting changes between the first 3D image and subsequent  
time varied 3D images by dividing each subsequent time varying  
3D image into a plurality of sub-volume voxels and performing a  
chi-squared test on corresponding voxels contained in each  
10 subsequent time varying 3D image and the sub-volume voxels in  
which was last detected a change, and compressing the data of  
each, subsequent successive time varying 3D image using run-  
length encoding.

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